Figure III shows ratios of observed to expected births by race for the four-day lunar phase periods during each of the years 1974-76. Expected births were computed by multiplying the average number of births per day by the number of days in each phase period for each year. Although these ratios show no consistent pattern for any phase, large deviations from the expected number of births are apparent.

A chi-square analysis showed that the number of births occurring during the lunar phase periods was not significantly different from those occurring on all other days during 1974-76. Neither was significance found when the four-day periods of each phase were tested separately against all other days.

However, upon examining each year separately, births occurring during the phases of 1975 were significant ($P < .01$, 4df). This result was due to a significantly larger number of white births occurring during the Full Moon period ($P < .01$, 1df) and significantly fewer births occurring during the Last Quarter period of 1975 ($P < .01$, 1df).

Considering all three years together, again the number of white births proved to be significant for the phase periods of the Full Moon and Last Quarter when each phase was tested separately against all other days. The number of nonwhite births occurring during the phase periods, however, was not significantly different from those occurring on all other days of 1974-76. In fact, nonwhite births occurring during the phases were significant only for the year 1976, caused by an unusually large number of births occurring during the days surrounding the New Moon.

These findings, though not consistent for each year, suggest that the Full Moon may stimulate an onset of white births and the New Moon in turn may prompt an increase in nonwhite births.

Nonwhite gestation has been shown to be about two weeks shorter than that for whites. If the occurrence of the Full Moon is associated with increased frequency of menstruation, then more white births would be expected to occur 40 lunar weeks later, hence at Full Moon, while more nonwhite births would be expected to occur 38 lunar weeks later—at New Moon.

Conclusions

Researchers have long noted that the incidence of deliveries are affected by such environmental factors as season of year, day of week, time of day, temperature and climate. Superstition surrounding the phases of the moon has prompted investigation of the incidence of births occurring during the lunar phases.

In North Carolina during 1974-76, a significantly larger number of births occurred on Tuesday while significantly fewer births fell on Saturday and Sunday. This finding is consistent with national studies which show that more births occur during midweek and fewer occur on the weekend.

In addition, the largest onset of births occurred during August and September while a sharp decline in births occurred in April and May. This pattern was also apparent in legitimate and out-of-wedlock births for all races, with the exception of out-of-wedlock births to races other than white and black.

Births are also possibly subject to lunar influence. Though no significance was found when births occurring during the lunar phase periods of 1974-76 were tested against births occurring on all other days, some significant results were found when births were examined by race and by year.